

Appl. No. 09/920,635
Amendment and/or Response
Reply to Office action of June 24, 2005

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AMENDMENTS TO AND/OR LISTING OF THE CLAIMS

A listing of the entire set of pending claims (including amendments, if any) is submitted herewith per 37 CFR §1.121. This claim listing replaces all prior versions and listings of claims in the application.

1. (Previously presented) A liquid crystal display (LCD) device, comprising:

a plurality of pixels arranged in a matrix of rows and columns, each pixel including a pixel switching device having first and second terminals and a control terminal, and a storage device connected to the first terminal of the pixel switching device;

a plurality of data lines connected to the second terminals of the pixel switching devices;

a plurality of data lines connected to the second terminals of the pixel switching devices;

a plurality of data drivers connected to the data lines and providing image data to the data lines;

a plurality of scanning lines connected to the control terminals of the pixel switching devices for selectively connecting the first and second terminals of the pixel switching devices to provide the image data to the storage devices; and

at least one switch responsive to a corresponding control signal to selectively connect two of the data lines to each other such that image data applied by a data driver is simultaneously applied to at least two data lines.

2. (Original) The LCD device of claim 1, wherein each switch comprises a cross-column switch extending between the two data lines selectively connected to each other.

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3. (Original) The LCD device of claim 2, further comprising a register corresponding to each cross-column switch and providing the control signal for the cross-column switch.

4. (Original) The LCD device of claim 1, further comprising a common test line and wherein the at least one switch comprises a column test switch extending between a corresponding one of the data lines and the common test line.

5. (Original) The LCD device of claim 4, further comprising a register corresponding to each switch and providing the control signal for the switch.

6. (Original) The LCD device of claim 1, wherein each switch includes a column test switch, the LCD device further comprising:

a common test line; and

a plurality of common pair selection switches each connected between a pair of the column test switches and the common test line.

7. (Original) The LCD device of claim 1, further comprising a register corresponding to each switch and providing the control signal for the switch.

8. (Currently amended) A method of repairing a defect in a liquid crystal display (LCD) device including a plurality of pixels arranged in a matrix of rows and columns, a plurality of column lines connected to the plurality of pixels, a plurality of column drivers connected to the column lines and providing data to the pixels, and a plurality of switches each responsive to a corresponding control signal to selectively connect two column lines to each other, the method comprising:

identifying a defective column line in the LCD device, the defective column line including a first being one of the plurality of column lines; and

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connecting ~~at least one pixel of the defective column line~~ to a second column line of the plurality of column lines by applying a control signal to selectively close a switch such that image data applied to the second column line is applied to the defective column line ~~at least one pixel~~.

9. (Currently amended) The method of claim 8, wherein connecting the ~~at least one pixel of the defective column line~~ to the second ~~one of the column lines~~ line comprises closing a first switch one of the plurality of switches ~~connected to the defective column~~.

10. (Original) The method of claim 9, wherein the LCD device includes a plurality of registers connected to the plurality of switches, the method further comprising storing a data value in one of the registers connected to the first switch to provide a control signal to close the first switch.

11. (Currently amended) The method of claim 8, wherein ~~connecting the at least one pixel of the defective column to the second column line~~ comprises closing a first switch of the plurality of ~~one of the switches~~ is connected to the defective column line and to the second column line.

12. (Currently amended) The method of claim 8, wherein connecting the ~~at least one pixel of the defective column line~~ to the second column line comprises:

closing a first ~~one of the switches~~ switch connected to the defective column and to a common test line; and

closing a second ~~one of the switches~~ switch connected to the second column and to the common test line.

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13. (Currently amended) The method of claim 8, wherein identifying the defective column line comprises identifying a portion of the first column line which is not connected to any of the column drivers.

14. (Original) The method of claim 8, wherein identifying the defective column comprises identifying a defective column driver.

15. (Original) The method of claim 14, wherein the LCD device includes a plurality of column driver switches each connected to one of the column lines and to one of the column drivers, and a plurality of registers each connected to control terminals of the column driver switches, the method further comprising storing a data value in one of the registers connected to a first one of the column driver switches to provide a control signal to close the first column driver switch.

16. (Previously presented) An image display device, comprising:
a plurality of pixels arranged in a matrix;
a plurality of column lines connected to the plurality of pixels;
a plurality of column drivers connected to the column lines and providing data to the pixels; and
means for selectively connecting two column lines to each other such that image data applied by a data driver is simultaneously applied to two data lines.

17. (Original) The device of claim 16, wherein the means for selectively connecting two column lines to each other comprises at least one switch responsive to a control signal to selectively connect the two column lines to each other.

18. (Original) The device of claim 17, further comprising a plurality of registers each corresponding to one of the switches and storing a data value indicating whether the corresponding switch should be opened or closed.

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19. (Original) The device of claim 17, wherein each of the switches comprises a cross-column switch extending between the two column lines selectively connected to each other.

20. (Original) The device of claim 17, further comprising a common test line and wherein each of the switches comprises a column test switch extending between a corresponding one of the column lines and the common test line.

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